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Garden Birds of Bangalore : An Introduction

A. K. Chakravarthy, S. Subramanya and Abraham Verghese

ABSTRACT

Garden birds in the City of Bangalore are on decline. Clearing gardens for construction purposes, interference of man, air pollution and destruction of flora of garden birds are factors playing an important role in the decline of birds.

Populations of uncommon, interesting species are being replaced by populations of species, common and abundant. More gardens, patches of natural vegetations and open spaces are needed to check this process.

Components of a garden, ideal for holding birds in the city are suggested.

Introduction : It is generally believed that interesting birds can be found in parks and sanctuaries. This is not so. Bangalore (12° 58'N, 77° 35' E)—the Garden City of India offers interesting species to a birdwatcher in gardens : big ($>$ 5 ha.) or small ($<$ 5 ha); managed or unmanaged. Birds pollinate flowers, prey on pest-insects and add beauty. Bird, watching in gardens can be enjoyable as well as a useful past-time. Gardens are perhaps, the finest pockets for birding in the city.

In Bangalore, the value of gardens as refugia for birds is steadily increasing now with the destruction of wooded areas and urbanization. So, efforts to maintain gardens natural is vital. However, it is not for birds alone that gardens should be conserved, but it is for the components and features of the whole ecosystem. Excepting for the studies of George (1976), Verghese and Chakravarthy (1977, 1978) and observations of Futehally (1970s), no published information on garden birds is available. Discussed in this paper are notes on a selected species of garden birds.

Study Areas : Much of the patches of natural vegetation left around palaces, houses, schools ond other big apartments in the city were surveyed on foot for garden birds. Botanical Gardens (Lalbagh and Cubbon Park) maintained by the State Government were also frequented. No attempt was made to distinguish parks from

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Amateur Birdwatching Association, 7, Lakshmaiah Road, Ulsoor, Bangalore-560 008

gardens. The campuses of the University of Agricultural Sciences (U.A.S), Indian Institute of Science (IISC) and the splendid palace grounds of the Maharajah (PG) which are prized places for garden birds were intensively surveyed. A brief description of the principal habitat-types is found in Anonymous (1967) and Verghese and Chakravarthy (1977,1978).

Observations : Birds were watched with 8×30 and 7×35 binoculars. Observations on density, feeding and nesting were recorded. Whenever possible data on life-cycle attributes were also gathered. Surveys continued upto June 1979 beginning February 1974.

Results and Discussion* : Attributes of the garden birds observed are given in Table-1. Pitta, Magpie Robin, Paradise flycatcher, Iora and Indian Oriole were sighted infrequently. This is possibly due to locally migratory habit. These birds are relatively difficult to spot than common birds like House Crow, House Sparrow, Blue Rock Pigeon, and Common Myna. Latter species were abundant and common. A majority (Ca. 75%) of the garden birds were Resident. Only about 5% of the birds were winter visitors. That 80% of the birds preferred woodland suggests the importance of conserving wooded areas in the city. In contrast, unfortunately these are the areas diminishing at an alarmingly fast rate. Even gardens (e.g. Cubbon Park,

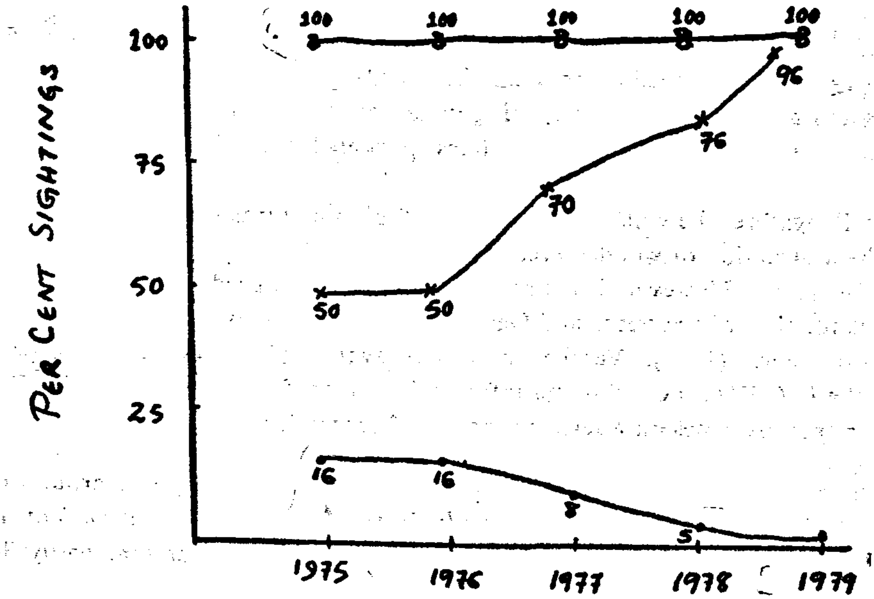

Fig. 1 : Per cent sightings of Paradise flycatcher (.), Indian Robin (X) and House Crow (8) from 1975 to 1979 in Bangalore.

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* For Scientific names, see Table-1

UAS) intensively used by man favour only eurycious (e.g. House sparrow, House crow) birds in place of Stenocious (e.g. Pitta, Paradise flycatcher) species. So, in due course of time the habitat would support a large population of only few species. Birds unable to commensal human environs, abandon the region, despite the availability of food and shelter. Data in Fig 1 show such a phenomenon. House crow is a bird that commensals human environs and was sighted in all outings. Robin is increasingly using elements of the built-environment and is becoming more common in man-made gardens. Paradise flycatcher frequency decreased to such an extent that in 1979 the bird was not sighted in gardens at all.

Seasonality : Maximum number of garden species were sighted in October—November and February—March. In October-November the population of resident birds was supplemented by local migrants and also winter visitors. High species richness in March was on account of a large (Ca. 50%) number of garden plants flowering. Summer is the time when several garden birds nest.

Trophic structure : A very broad outline of the trophic structure of bird community in gardens, in Bangalore is given in Fig. 2.

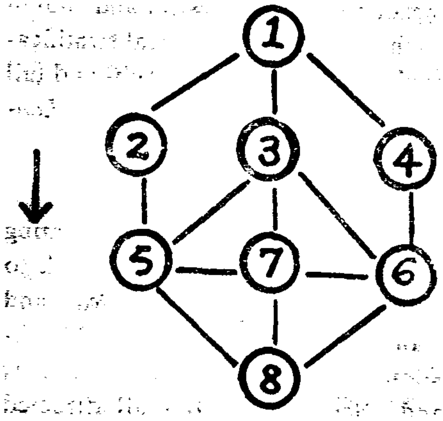

Fig. : A broad outline of the tropic structure of the Garden bird community in Bangalore with the arrow indicating the direction of flow of energy. 1- Primary consumer ; 2, 3 and 4- Secondary consumers ; 5 and 6 - tertiary consumers ; 7 and 8 - Top consumers.

50 per cent of the species were insectivores and only obout four per cent were omnivores. Omnivory involved a predator feeding on adjacent trophic level (e.g. House sparrow feeding on insects). Such a system as suggested by Pimm 1980 is perturbed from equilibrium. In an equilibrium or stable ecosystem, the probability of expecting a species at each trophic level would be equal. The garden-bird community contained only 11 per cent as top consumers. Top consumers in a system are maintained by complex trophic interactions and their rates of colonization and extinction are also very unpredictable. So, such species must exploit a good proportion of the available resources. However, garden—system in the city can be

rendered stable by altering features of the garden such as the size, shape, habitat heterogeneity, etc.

The size, shape, flora, heterogeneity, management practices and other fauna are all important in regulating quantity and quality for bird-life in a garden. Also influencing bird faunas are the climatic, edaphic and abiotic features. We discuss below few features of the garden that influence bird-life.

Size and Shape : In general, larger gardens would hold more species (see Gilpin and Diamond, 1980) but a number of small gardens may have more species than a single large garden (see Higgs and Usher, 1980). This is probably due to that the former leave a mosaic of microhabitats that latter do not. Lalbagh and Cubbon park are two, large botanical gardens in Bangalore without much variation in size but shape, vegetation and habitat types. Lalbagh offers a greater variety of habitats suitable for 85 species. Cubbon park represents large areas of only two or three habitats where no more than 60 species may frequent. Subdivisions of habitat and vegetation are also important. For instance, subdivision of the woodland in the campus of IISC into open – and cultivated land enabled white headed Babbler, Kestrel and Indian Oriole to prefer that habitat over other wooded patches. Similarly vertical stratification of the vegetation into dwarf (e.g. grass, reeds), medium (e.g. shrub) and tall (e.g. trees) layers have enabled the various species of the genera : *Turdoides, Lonchura, Myscicapa, Pyconotus and Megalaima* to co-occur in IISC but not in Cubbon Park, where such subdivision in vegetation is poorly founded.

Vegetation : Flora, particularly the shrubs and garden trees have dominating influence on bird community. To quote Cowen (1969)- "no tree attracts birds to quite the extent of Silk-cotton (*Salmalia* species)". Coral tree *(Erythrina indica)* and Banyan (*Ficus* sp.) stand next in attracting birds. In a garden of 22 acres at North-West of Bangalore, *Salmalia* sp. attracted birds belonging to 8 families ; *Casuarina equisetifolia*, seven ; *Samanea saman*, *Ficus* sp. and *Pongaemia glabra* – all attracted five, each.

Of small trees and shurbs, species of *Lantana, Thunbergia,* *Cassias* and *Jasminum* are fairly abundant in Bangalore and are important from the birds' point of view. Equally important but scarce are species of spreading bushes like *Caesalpinia, Gardenia* and *Lagerstraemia.* Creepers like *Bignonia venusta*, *Bougainvillea* sp., *Antigonon trifolia, Ipomea* species often held nests of Ashy Wren-Warbler, Purple, Sunbird, Red Vented Bulbul and of *Lonchura* species.

Management : Some sort of management is needed should garden must serve as a refuge for birds in the city. A garden serving as an aviary must permit the bark feeders, air/foliage gleaners, ground gleaners and trunk/branch feeders to co-exist.

Features shown in Fig. 3, could be ideal for the purpose. Ample space should be provided for birds to forage, nest and roost. Only part of the garden should receive direct sunlight, as Pitta. Magpie Robin, Tailor Bird and White-eye were often observed in shady areas. Perch is another important feature. Offering suitable perches require knowledge of each bird's habits. Indian Oriole and Koel have frequently been found perching in closed, dense canopy- In contrast, Drongo and Shrikes of *Lanius* species were sighted perching in the open, preferably. Artifacts like metallic poles can be used to supplement natural perch sites.

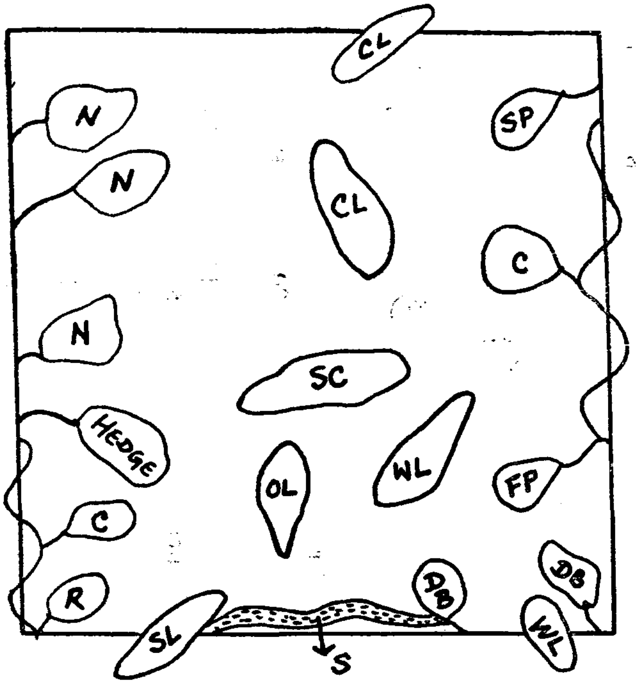

Fig. 3: Components of a Garden suitable for holding birds of various kinds.
N-Nesting site, CL-Cultivated land, SP-Singing perch, C-Creeper, OL-Open land, R-Reeds, SL-Scrub land, FP-Feeding perch, S-Water stream, WL-Woodland, DB-Dust bath, SC-Scrub.

To supress insects injurious to garden plants, chemicals should be avoided. Instead, insectivorous activity should be utilised. Wagtails have been recorded to reduce aphid populations on crucifers (Toor and Ramzan) and on field bean (Chakravarthy and Verghese, unpub).

Table-1 : A selected list of garden birds observed in Bangalore

Sl. No.	Scientific Name	Common Name	Tropic status	Mean density/ km²	Status	Habitat preference			
						WL	SL	CL	FL
1.	*Milvus migrans*	Pariah kite	TC	2	R	+	+	+	—
2.	*Haliastur indus*	Brahminy kite	TC	1	R	+	+	—	—
3.	*Accipiter badius*	Shikra	TC	1	R	+	+	—	—
4.	*Falco tinnunculus*	Kestrel	TC	1	L M	—	+	+	+
5.	*Columba livia*	Blue Rock Pigeon	G	4	R	+	+	+	+
6.	*Streptopelia chinensis*	Spotted Dove	G	20	R	+	+	+	+
7.	*Psittacula krameri*	Roseringed parakeet	G	580	R	+	—	—	—
8.	*Eudynamys scolopacea*	Koel	G	2	R	+	—	—	—
9.	*Athene brama*	Spotted Owlet	TC	1	R	—	+	+	—
10.	*Caprimulgus asiaticus*	Common Night jar	I	1	R	+	+	—	—
11.	*Apus affinis*	House Swift	I	20	R	+	+	—	—
12.	*Halcyon smyrnensis*	Whitebreasted Kingfisher	I	1	R	+	—	—	—
13.	*Merops orientalis*	Small Gree Bee-eater	I	55	R	+	+	+	+
14.	*Upupa epops*	Hoopoe	I	4	R	+	+	—	+
15.	*Megalaima viridis*	Small Green Barbet	G	1	R	+	—	—	—
16.	*Pitta brachyura*	Indian Pitta	I	1	L.M	+	—	+	—
17.	*Megalaima haemacephala*	Crimson breasted Barbet	G	1	R	+	—	—	—
18.	*Lanius schach*	Rufousbacked Shrike	I	2	L.M	+	—	+	—
19.	*Oriolus oriolus*	Indian oriole	I	2	L.M	+	—	—	—
20.	*Dicrurus adsimilis*	Black Drongo	I	4	R	+	—	+	—
21.	*Sturnus pagodarum*	Brahminy Myna	G	6	R	+	+	—	+
22.	*Acridotheres tristis*	Common Myna	O	6	R	+	+	+	+

23.	*Corvus splendens*	House Crow	O	18	R	+	+	+	—
24.	*Tephrodornis pondicerianus*	Wood shrike	I	1	W.V	+	+	+	+
25.	*Aegithina tiphia*	Iora	I	2	R	+	—	—	—
26.	*Pycnonotus cafer*	Redvented Bulbul	G	6	R	+	+	—	—
27.	*Turdoides caudatus*	Whiteheaded Babbler	I	7	R	+	—	—	—
28.	*Terpsiphone paradisi*	Paradise Flycatcher	T	1	L M	+	—	—	—
29.	*Prinia socialis*	Ashy Wren-warbler	I	4	R	+	+	+	—
30.	*Orthotomus sutorius*	Tailor Bird	I	6	R	+	+	+	—
31.	*Phylloscopus* sp.	Leaf Warbler	I	1	W.V	+	+	—	—
32.	*Copsychus saularis*	Magpie Robin	I	2	L.M	+	—	—	—
33.	*Saxicola caprata*	Pied Bushchat	I	2	R	+	+	—	—
34.	*Parus major*	Grey Tit	I	4	P.M	+	—	—	—
35.	*Saxicoloides fulicata*	Indian Robin	I	8	R	+	+	—	+
36.	*Motacilla maderaspatensis*	Pied Wagtail	I	2	R	—	+	—	+
37.	*Diacaeum erythrorhynchos*	Tickell's Flower pecker	G	3	L.M	+	—	—	—
38.	*Nectarinia zeylonica*	Purplerumped Sunbird	G	3	R	+	+	—	—
39.	*Nectarinia asiatica*	Purple Sunbird	G	4	R	+	+	—	—
40.	*Zosterops palpebrosa*	White-eye	G	15	R	+	—	—	—
41.	*Passer domesticus*	House sparrow	O	55	R	+	+	+	+
42.	*Lonchura malabarica*	Whitethroated Munia	G	-	L.M	+	—	+	—
43.	*Lonchura punctulata*	Spotted Munia	G	16	R	+	—	+	—

R = Resident, L.M. = Locally Migratory, W.V = Winter visitor, TC = Top Carnivore, G = Granivore, O = Omnivore, I=Insectivore, WL = Wood land SL=Scrub land, CL = Cultivated land, FL = Fallow land.

REFERENCES

Anonymous, 1967. *Horticulture in Mysore State.* Department of Horticulture Bangalore.

George, J. 1976. Increase in Bird population in a six hectare plot in Bangalore on planting a garden. *Newsletter for Birdwatchers.* **XVI** (II) : 3

Gilpin, M.E. and Diamond, J.M. 1980. Subdivision of nature reserves and the maintenance of species diversity. *Nature,* **285** (5766) ; 567–68.

Higgs, A.J. and Usher, M.B. 1980. Should nature reserves be large or small? *Nature,* **285** (5766) 568–69.

Pimm, S.L. 1980. Properties of Food webs. *Ecology* **61** (2) : 219-25

Toor, H.S. and Ramzan, M. 1975. The Grey Wagtail, *Motacilla caspica* Gmelin a gppd predator of Mustard aphid, *Liphaphis erysimi* Kalt ; *Sci. and Cult.*, **41** (6) : 288.

Verghese, A and Chakravarthy A.K. 1977. Pattern of bird-life in a garden in Bangalore. *In J. Behaviour* 3, (1) : 14-17.

..................................and.................................. 1978. The avifaunal community of Lalbagh : A Botanical garden. *The Lal-Bagh Journal* **XXIII** (3) : 1-14.

Zafar, F. 1970s. *Newsletters for Birdwatcher.* **X-XX.** Dodda Gubbi Post. Bangalore.